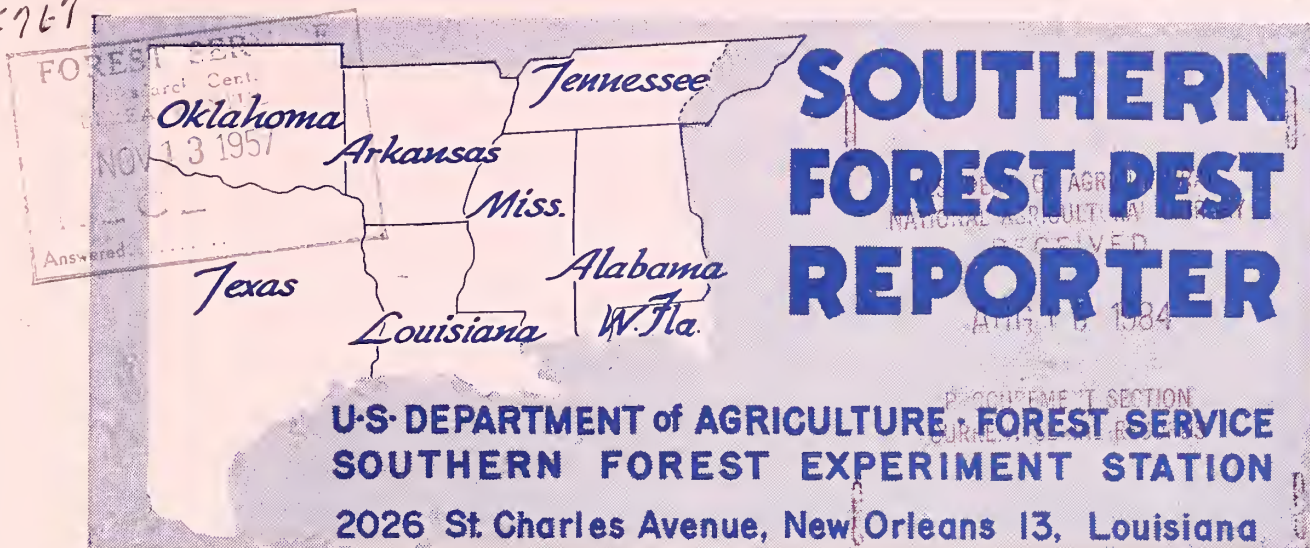


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The midsummer flare-up of the southern pine beetle on the Homochitto National Forest in southwest Mississippi has been quickly and effectively brought under control, but some beetle spots still remain unchecked on adjoining private lands. This pest continues to be a serious threat in Alabama, especially the east-central part. It is being held in control on the national forests, but some of the private timberland owners are ignoring infestations on their lands. In Texas, one active spot was detected in September and control is under way. No new infestations have been observed in Louisiana, and there have been no indications of the beetle in other Midsouth States.

Ips bark beetles are killing scattered pines, but the mortality is not considered unusual for this time of year. The black turpentine beetle continues to be a problem in many cutting areas. Private companies have spent more money in controlling this beetle than any other southern forest insect.

The Nantucket pine tip moth and the red-headed pine sawfly have been more active than usual. Timber owners in Texas and Louisiana are deeply interested in developing improved controls for the Texas leaf-cutting ant. On large areas successful pine planting is impossible unless this pest is controlled in advance.

Southern Pine Beetle

Beetle is checked on Homochitto National Forest. --In late July an aerial survey over southwest Mississippi detected an alarming increase of the southern pine beetle. There were estimated to be 140 small spots of dead and dying timber on the southern portion of the Homochitto National Forest and on nearby private lands.

Operational flights by ranger district personnel located 60 spots within the National Forest. Ground checks indicated that 41 spots were active, the remainder having been vacated by the beetles. Most spots were less than a half-acre in size, but a few covered 2 to 5 acres. Generally, an active spot occurred within a half-mile of an abandoned one. Most spots were in overstocked stands where the growth rate had declined noticeably during the past five years.

Controls were promptly put into effect. Trees containing the beetles were felled and the infested bark sprayed with benzene hexachloride in fuel oil. Green slash was also sprayed to prevent an Ips build-up, and all salvageable timber was subsequently removed.

A second operational flight was made in late August and a third in late September, but no southern pine beetles could be found. On nearby private lands, some active spots still remained. In one instance, beetles were again active adjacent to a spot where controls were applied five years ago.

It is apparent that early detection and prompt control stopped what might have been another major outbreak on the Homochitto. What will happen on private lands in the vicinity remains to be seen.

Threatens private forests in Alabama. --In recent years, the southern pine beetle and other bark beetles have killed much pine timber throughout Alabama. Most of the loss has been in the west-central, east-central, and southern counties and on the Bankhead and Talladega National Forests. Ranger district personnel have flown the national forests monthly during the season of beetle activity, and entomologists of the Southern Forest Experiment Station, sometimes assisted by State personnel, have periodically surveyed the major forested areas under private ownership.

In August, an aerial survey was made over the three areas of high insect hazard. Approximately 10,000 square miles of privately owned land were covered with flight lines spaced at 4-mile intervals. During the same period, ranger personnel made operational flights over national forest lands.

The survey discovered a rapidly increasing infestation on private lands in the vicinity of Lake Martin, Tallapoosa County, where sporadic activity occurred in 1955 and 1956. On an area of approximately 500 square miles of commercial forest land there were estimated to be 250 groups of recently killed pines, or, more specifically, 74 groups per 100 square miles of pine type. Not only were the infested spots much more numerous than in recent years, but they were larger and the beetles more aggressive. Many red-top pines were scattered over the area. Where the incidence of these scattered red tops increased, so also did the number of spot infestations.

On national forests, the southern pine beetle had dropped to a comparatively low level, probably because of the control work done by the district rangers.

Unless quick action is taken on private timber lands in Tallapoosa County, a major outbreak is likely. If such an outbreak does occur, losses will be heavy and much money and organized effort will be necessary to check it.

Beetle is incipient in Texas, quiet in Louisiana. -- The history of the southern pine beetle in Texas indicates that the Big Thicket, in the southeastern counties, is the most likely point for an outbreak. In mid-September, for the second time this year, an aerial survey of the area was made with the cooperation of the Kirby Lumber Corporation. Approximately 2,000 square miles were covered with flight lines spaced at 4-mile intervals. An active spot of 1-1/2 acres was discovered approximately 2 miles southeast of the Honey Island area where a small infestation had been found last January. Ground inspection indicated that the current infestation originated in a dense portion of the stand. Salvage control is now in progress. Another survey, encompassing all of southeast Texas, is scheduled for late October.

Former beetle areas in East Feliciana and East Baton Rouge parishes, Louisiana, were re flown by the Louisiana Forestry Commission in September. Both parishes are in the general vicinity of the recent southern pine beetle flare-up in southwest Mississippi. Only a few scattered red tops, presumably killed by lightning and Ips beetles, were observed.

Ips Bark Beetles

Recent months have seen no abnormal increases in Ips-infested trees in the Midsouth, probably because precipitation has been nearly

normal over most of the formerly drought-stricken areas of east Texas, Arkansas, and Louisiana where heavy timber losses occurred last fall and winter. Even in the hurricane blowdown area in southwest Louisiana the anticipated Ips build-up has failed to materialize, except to a slight extent where salvage of damaged timber was delayed.

Although Ips-infested pines are usually widely scattered throughout the forest, the losses are much greater than is generally realized. In the South, deterioration is rapid and in a matter of weeks dead trees may become inconspicuous. During any one month, therefore, we cannot gain a complete picture of the total annual mortality. To fully appreciate the importance of these insects, the cumulative loss must be considered. This loss is undoubtedly very high, as shown by several companies who conduct intensive salvage operations.

Black Turpentine Beetle

Infestations of the black turpentine beetle have been numerous this year in cutting areas in all parts of the South. Chemical control has been necessary on the Sam Houston National Forest, Texas; the Kisatchie National Forest, Louisiana; the Holly Springs and DeSoto National Forests, Mississippi; and on private lands in most States. Many of the current infestations are in areas cut last winter and spring.

Where benzene hexachloride in fuel oil has been properly applied, very few trees have succumbed to the beetle. Infestations continue to appear in new cutting areas, but in many instances beetle development has been restricted to stumps and there has been no noticeable spread to standing timber. Under such conditions, control is not recommended.

The severe outbreak on the Kisatchie National Forest has been halted. A spray of 1 percent gamma benzene hexachloride in fuel oil was used on the infested lower trunks of approximately 20,000 standing trees in an area around Saline Lake where flooding persisted for several weeks early last summer. Although most trees were heavily attacked, the broods were destroyed before they had girdled many of them. Hence mortality has been light. A few months ago the inner bark of many of these flooded trees had a sour, vinegar-like odor, and it was thought that they might die. At present, it appears that they will survive.

Pine Tip Moth

The Nantucket pine tip moth has apparently become more plentiful and the injury more spectacular than in recent years. In varying degrees of intensity it infests plantations throughout the South. In some States, it has attracted more attention and comment than any other forest insect.

In parts of northern Mississippi, Louisiana, and Texas, trees of commercial size were heavily infested. From the air, the red-fringed crowns appeared dead, as if killed by bark beetles. Such injury to larger trees is unusual and is not likely to continue.

Pine Sawflies

Many reports of defoliation by the red-headed pine sawfly (Neodiprion lecontei) have been received. Most of the trouble has developed in young plantations of loblolly pine, although other pine species have been damaged. Heavy and repeated defoliations, especially late in the season, have caused scattered mortality in some plantations. Broods overlap throughout the year, and some feeding may be expected during the colder months.

Another species of sawfly, tentatively identified as Neodiprion exitans, has been found on loblolly pine in southwest Mississippi, southern Louisiana, and east Texas. The greenish larvae with black heads were present mostly on large trees during September and early October. Defoliation was generally light.

This sawfly appears to be widespread and increasing. More noticeable defoliation may take place next spring and fall in localized areas.

Texas Leaf-Cutting Ant

The Texas leaf-cutting ant, or town ant, has long been recognized as a serious agricultural threat in Texas and central Louisiana. It attacks nurseries, orchards, vegetables, and cereal and forage crops. It is also a serious pest to pine seedlings. In fact, where the ant is abundant, both natural and artificial regeneration of pine are impossible. The conspicuous towns, made up of numerous mounds of sand, are a common sight in the forest and more particularly on pasture land, abandoned fields, and along roadsides.

In recent months, timberland owners of central Louisiana have been seeking better measures for controlling this insect. Some have

successfully destroyed the colonies by fumigating with methyl bromide, while others have had unsatisfactory results.

Methyl bromide is most effective when applied to the towns during the cooler months, but before pine seedlings are planted or germinate naturally. Treatment should be made on cool, cloudy, rainy mornings when the ants are inactive. Several weeks after treatment, towns should be re-examined. If some colonies survive, they can be eradicated with a second application of methyl bromide.

There is a need for more detailed research on the biology of the Texas leaf-cutting ant. Once the habits are more fully understood, it should be possible to develop better and more permanent controls.

White Grubs

As mentioned in the May issue of the REPORTER, unusually heavy spring flights of May beetles were observed in Texas and other parts of the South. The larvae of these beetles, the so-called white grubs, are now probably abundant and widely distributed, and may cause substantial losses to pine seedlings planted in sodland. Some damage has already been reported to loblolly seedlings in Rusk County, Texas, and additional infestations may show up before spring. Planting of seedlings in heavily infested sodland should be avoided until satisfactory controls are developed.

Hardwood Defoliators

The spring oakworm (Anisota stigma), orange-striped oakworm (A. senatoria), and yellow-necked caterpillar (Datana ministra) caused light to moderate defoliation of oaks in western Louisiana and east Texas during September. The variable oak-leaf caterpillar (Heterocampa manteo), which was abundant in 1955, has not been observed this year.

The walnut caterpillar (Datana integerrima) has been reported defoliating pecan trees in east Texas and southern Louisiana. The fall webworm (Hyphantria cunea) was scarce during the early summer but is gradually increasing in some areas. So far, heavy defoliation has been confined to scattered hardwoods of various species.

Tree Diseases

Needle browning. -- During the past few months browning of needles on loblolly pine has occurred over extensive areas in southern Arkansas and northern Mississippi. Typically, only the outer halves of needles in the lower crowns die. The only fungus consistently found on such needles is the leaf-cast fungus Lophodermium. This fungus ordinarily lives as a saprophyte on dead needles but occasionally attacks living tissue. No appreciable damage is expected from the current browning. The shedding of needles from loblolly pines in the spring is due to another fungus.

Oak leaf spot. -- An appreciable amount of oak anthracnose (Gnomonia) occurred this summer over much of the South. Some other leaf-spotting fungi were probably present also. Premature leaf fall and disfigurement of ornamentals resulted, but there should be no permanent damage.

Root and butt rot of pines. -- The root rot fungus, Polyporus schweinitzii, was isolated from the roots of many windthrown slash and loblolly pines in south Mississippi and was found causing butt rot in several 50- to 70-year-old shortleaf pine stands in Arkansas. The fungus usually does not kill an entire tree but only part of the root system. The damage to the roots, however, reduces growth and makes the tree highly subject to windthrow. In addition, the lower half of the butt log decays, causing cull in the highest quality wood.

Hardwood dieback and mortality. -- Willow, sweetgum, cottonwood, and to a lesser extent other hardwoods continued to die this summer, but less rapidly than in preceding years. Most of the dieback and mortality has been associated with soil water shortages due to insufficient rainfall, coupled with excessive land drainage and hot weather. Damage has been worst on heavy clay soils, which hold soil moisture under high tension; and on almost pure sands, which hold little moisture between showers when the water table is lowered. The generally better rainfall during 1957 reduced dieback and mortality in many areas.

